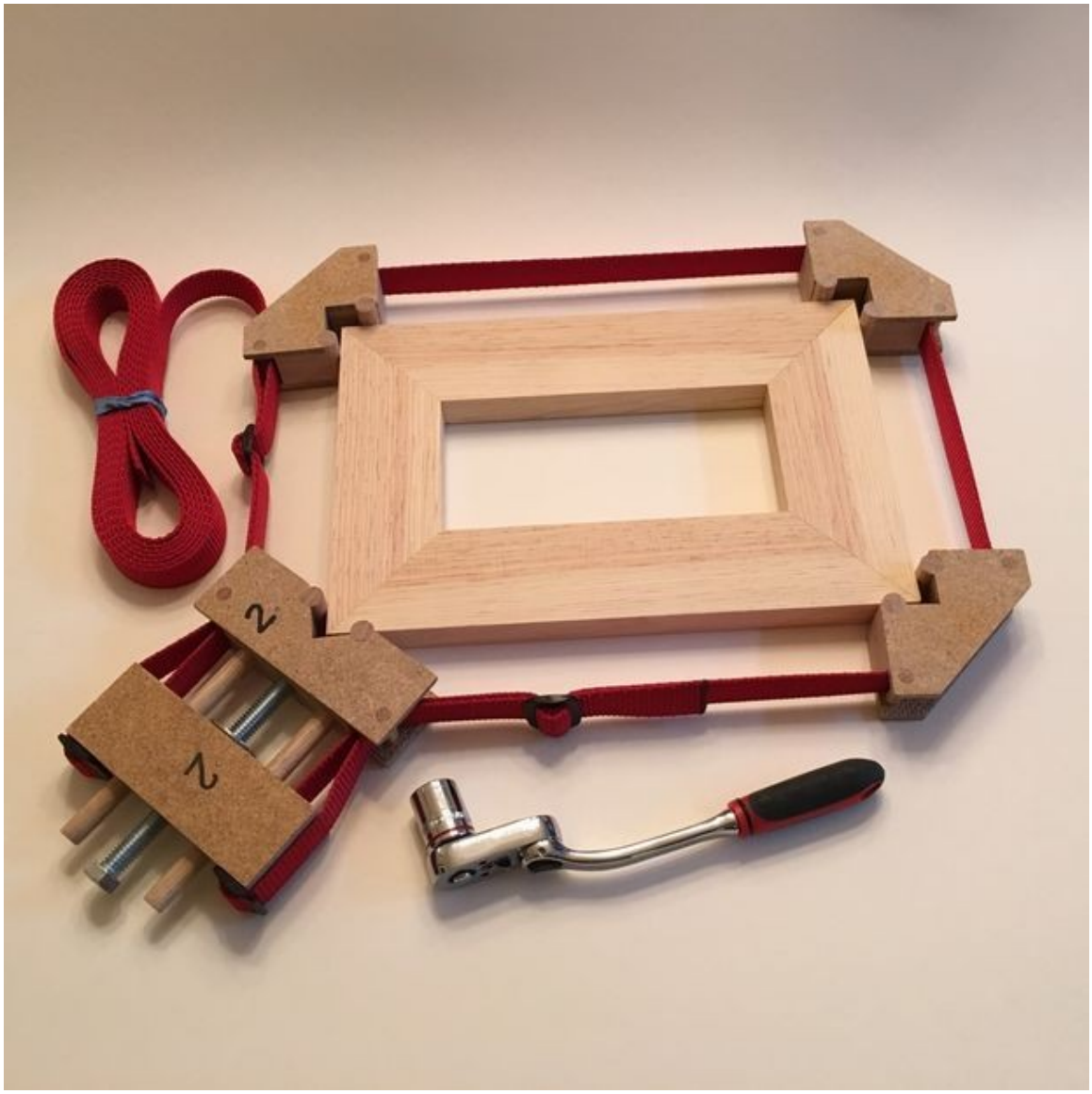
Infinite Band Clamp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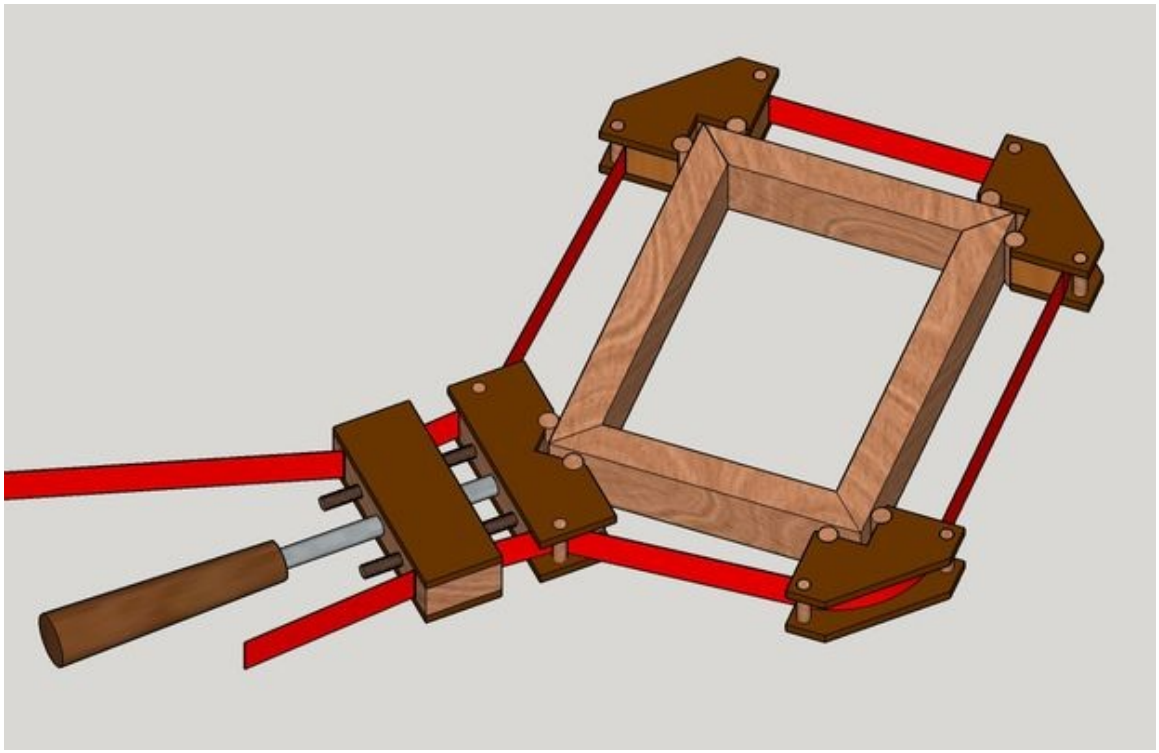
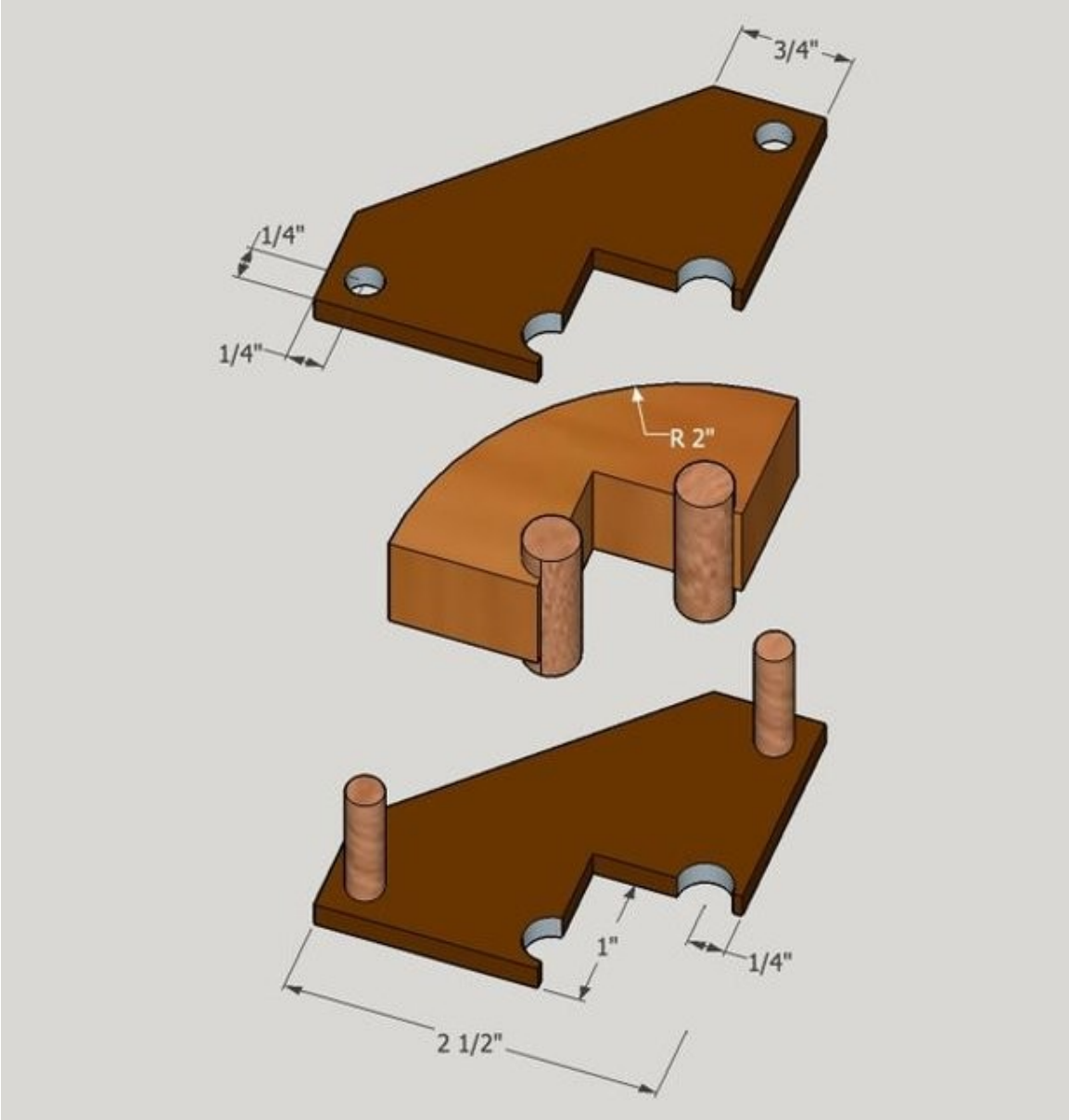


A band clamp lets you clamp many different shapes for gluing that would be difficult to pull together with just standard bar or pipe clamps. Want to make a picture frame? Use a band clamp!

You can easily and cheaply make your own band clamp to use on rectangular frames, furniture, circular objects, hexagons, octagons, n-gons …. and clamp anything of practical size!

You will need a 4" by 10" hardwood board 3/4" thick, a 5" by 20" piece of 3/16" (tempered) hardboard, a 1/4" and 3/8" hardwood dowel (e.g. oak, don't use poplar or pine), a 4" long 3/8"-16 hex bolt (or rod) fully threaded, a 3/8"-16 T-nut, a #8 hex nut, ten or more feet of 3/4" heavy Nylon webbing, four 3/4" triglide sliding buckles, and wood glue. For tools you need a table saw, a band saw, and a drill press.

Step 1: Construct the Corner Jaws



The band clamp consists of a number of jaws, a band that wraps around the jaws, and a tensioning mechanism that pulls the band around the jaws to tighten them on the work piece.

For a rectangular frame you need three jaws to hold three of the corners, and a fixed jaw and tensioner for the fourth corner.

To make these corner jaws, cut out a 4” diameter circle from ¾” hardwood. Drill a 1/8” hole through the center. Cut two 5” by 5” squares from 3/16” hardboard (actual thickness is less than 3/16") , and also drill 1/8” holes through their centers. Use nails to line up the

hardboard centers with the hardwood circle, and glue the block together. The hardboard edges should line up as shown in the pictures.

After the glue dries, print and cut out the drilling template 1 and stick onto the square block with rubber cement. Then drill the ¼” and 3/8” holes as shown all the way through the block.

Use a band saw to cut the block into quarters, and cut out the jaw corners (1” square) on each piece. You will cut through the 3/8” holes, its part of the design. Finally trim off the diagonals on each piece.

Cut eight pieces 1-1/8” long off a 3/8” hardwood dowel. Use an oak dowel; pine or poplar is too soft. Glue these dowel pieces into the 3/8” inch diameter half-holes. The dowels will function like ‘swiveling’ jaws to accommodate clamping joints that are not at 90 degrees.

Cut eight pieces 1-1/8” long off a ¼” hardwood dowel and glue into the top/bottom holes in the hardboard. These dowels will retain the band for the clamp. There should be enough space between these dowels and the circular edge of the hardwood to thread the band through.

Lightly sand and clean the edges and faces on the four corner jaws you just made. Set aside.